Addition in Assembly

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0xF00
MOV R1, #0x43

ADD R0, R0, R1

What is the value of R0 in decimal format?

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0x100
MOV R1, #0x43

ADD R2, R0, R1

What is the value of R2 in decimal format?

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0xF00
MOV R1, #0x43

Fill in the two empty spaces below so that R0 = R0 + R1:

ADD R0, [r0], [r1]

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0xF00
MOV R1, #0x43

Fill in the two empty spaces below so that R0 = R0 + R1:

[add] R0, r0, r1

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0xF00
MOV R1, #0x43
MOV R2, #0b1111

ADD R0, R0, R1
ADD R0, R0, R2
ADD R2, R0, R1

What is the value of R2 in decimal format?

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0xF00
MOV R1, #0x43
MOV R2, #0b1111

ADD R0, R0, R1
ADD R0, R0, R2
ADD R2, R0, R1

What is the value of R0 in decimal format?

With the help of the STM32CubeIDE debugging environment answer the following question:
MOV R0, #0b1101101
MOV R1, #045
MOV R2, #0b1111110111

ADD R0, R0, R1
ADD R0, R0, R2
ADD R2, R0, R1

What is the value of R2 in decimal format?

Masking

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0
MOV R1, #0x01

ORR R0, R0, R1

What is the value of R0 in decimal format?

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0
MOV R1, #1

BIC R0, R0, R1

What is the value of R0 in decimal format?

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0
MOV R1, #[mask]

ORR R0, R0, R1

What is the value of R1 in hexadecimal format so that only bit 5 of R0 is equal to 1 after the last instruction?

With the help of the STM32CubeIDE debugging environment answer the following question:

MOV R0, #0
MOV R1, #[mask]

ORR R0, R0, R1

What is the value of R1 in hexadecimal format so that all bits of R0 is equal to 1 after the last instruction?

1. **Use the STM32CubeIDE to load the startup code given to you for Lab 1 - Week 1 (create a project from scratch).**
2. **Compile and initiate the debugging environment.**

- **Answer the following questions:**

- **What is the value of R1 after line 29 of the file setup_hardware.s in hexadecimal? [value1]**
- **Note:** Enter the exact hexadecimal value showed by the debugging environment!

- **What is the value of the special register GPIOE->ODR after line 25 in main.s in hexadecimal?** [value2]
- **Note:** Enter the exact hexadecimal value showed by the debugging environment!